1:Vaillant A-5 (1928-1936)1941 NU7 Aztec NU7

tions. The original inventors and innovators are lost in the black obscurity of American history, but the fruit of their ingenuity plays an important part in our modern economy.

As opposed to this wealth of plants, the Aztecs were poor in domesticated animals. They had several varieties of dog, one of which was bred for food, but they never used this animal for transport as did Indians of our Northern plains. The turkey was their chief domesticated fowl, although there is some evidence that they bred geese, ducks and quail also. In plantations of the nopal cactus they carefully tended the cochineal bug for the rich crimson dye it yielded when crushed. A second insect, the maguey slug, still retains its place as a delicacy of the Mexican table, served with another typically Aztec dish, *guacamole*,* a thick mixture of tomato, alligator pear and chile.

Hunting, when possible, produced food, but as early as Upper Middle Culture times the deer were nearly all killed off. The seasonal migrations of the birds, which still visit the lakes of Mexico, offered a profusion of geese, ducks and other wild fowl. Small fish, netted or speared with a trident, were sometimes consumed, and the eggs which a certain fly lays on the lakes were made into a paste still eaten in Mexican communities. The high functionaries, since they were supported by the community, kept a much better table than the poor, who lived meagerly off the produce of their own fields; the daily repast of Montezuma was described by the Spanish conquerors as the height of Lucullan luxury.[18]

Tools showed relatively little variation from Middle Culture to Aztec times. The *coa*, or digging stick, was the chief farming instrument, and the *metate* and *mano* even now re-

*Wah-ca-mo'-lay.

1:Vaillant A-5 (1928-1936)1941 NU7 Aztec NU7

with the traditional date of the diffusion of picture writing by the peoples from the Mixteca. (See Plate 29, third row.)

The third phase of this style, made during the fifteenth century, saw a gradual conversion of the linework into crude, continuous patterns, but the construction of the vessels proper was much finer.[17] A few potters rejected this slovenly manner and drew elaborate geometric designs. The closely parallel lines in some of these patterns were done freehand on the curved interior surfaces of the bowls, revealing extraordinary control in draftsmanship. Perhaps in trade, perhaps in tribute, many foreign vases were introduced at this time and stimulated the local potters to develop new styles of their own.

In the fourth period, during the chieftaincy of Montezuma, the potters broke away from these extremes of concentrated meticulousness and slovenly linework. Naturalism found favor, with birds, fish and plants used as designs and executed with that careless finesse of brushwork which characterizes Japanese sepia drawing. After the Conquest draftsmen accustomed to working in this style were able to copy accurately such elements of Spanish design as the double eagle of Charles V and the coats of arms of nobles.[18] (See Plate 32, top.)

Polychrome pottery was made locally, usually consisting of a red slip, or wash, adorned with a geometric design in black and white. Coarse construction with painfully careful, if crude, draftsmanship characterized the fourteenth-century ware. In the fifteenth century the hands of the potters loosened so that they were able to paint more sophisticated designs on vessels as thin and delicate as any pottery ever made in the Americas. Trade wares were rare at first and

1:Vaillant A-5 (1928-1936)1941 NU7 Aztec NU7

emanated chiefly from Puebla, but in the fifteenth century the quality and quantity increased, indicating the effects of trade and tribute. The historical reports that Texcoco was culturally superior to Tenochtitlan are borne out by archaeology; the Texcocan wares, although following the same styles as the Tenochcan, were better made and had a greater variety of design. Also there is evidence of more trade with foreign tribes.[19] (See Plates 30–32.)

Goblets were made for pulque; graters were made for grinding chilis, and clay vessels were made for every conceivable use; one form was a small oval platter with a special compartment for sauce, resembling the "blue-plate special" dishes of our modern restaurants. The circular roaster or griddle for cooking tortillas came in with Mazapan culture and continued to be popular through Aztec times. The bottoms of griddles were roughened so that heat would penetrate rapidly and evenly to the dough on the smoothed upper surface.

Clay utensils had their use in weaving. The Aztec spinner rested the end of her distaff in exquisite little cups, often charmingly ornamented. Her spindle weights were also made of baked clay. In the fourteenth century these were heavy and had holes large enough for a heavy spindle. Often their burnished black or red surfaces were cunningly adorned with stamped or incised designs representing conventional patterns or human and animal figures. In the fifteenth century the spindle weights became much smaller, so that at times it is hard to distinguish them from beads. This reduction in size perhaps indicates the spinning of more delicate cotton threads.

The spindle weight, or whorl, has an important bearing

175 787 Tzonmulco, the Temple of Xiuhtecutli. It was not raining hard, but only sprinkling. This was taken as an omen of evil, [for] it was said that it was only a summer flash, and that thunder did not sound.

[As] the fourth sign of evil, [while] there was still sun, a comet fell. It became three parts and began from where the sun set and went toward where he arose. It went as if showering sparks; for a great distance its wake went extending; far out did its tail reach. And when it was seen, there was much shouting; like [the rattle of] shells[4] it spread about.

[As] the fifth omen, the water [of the lake] foamed up, and the wind did not stir it up. It was as if it welled up, as if it boiled up with a cracking noise. Very far did it go as it rose upward, and it reached the lower parts of the houses; and, wet by the water, the houses crumbled. This was the great lake which extendeth by us here in Mexico.[5a]

[As] the sixth omen, often was heard a woman, who went weeping and crying out at night. She cried out loudly; she went about saying: "O my beloved sons, now we are at the point of going!" Sometimes she said: "My beloved sons, whither shall I take you?"

●[223] [As] the seventh omen, at one time the fisher folk hunted or snared with nets. They took a bird of ashen hue, like a crane. Then they came to show it to Moctezuma, [who was in] the Tlillan calmecac.[6] The sun was past his zenith, and there was yet daylight. There was what was like a mirror upon its head—round, disc-like, and as if pierced. From it appeared the heavens—the fire drill, the stars. And Moctezuma took it as a most evil omen when he saw the stars and the fire drill. And when he gazed a second time at the bird's head, beyond, he beheld what appeared to be like a number of people, coming massed, coming as conquerors, coming in war panoply. Deer bore them upon their backs. And then he summoned the astrologers[7] and the wise men, and said to them: "Do you not know what I have

xiuhtecutli, amo tilaoaia, çan aouchqujauja in iuh tetzammachoc, iuh mjto in ca çã tonalhujtecoc, amono caquiztic in tlatlatzinjliztli.

Injc nauhtetl tetzamachiotl, oc vnca in tonatiuh in xiujtl vetz: ieteetia, vmpa oalpeuh in tonatiuh icalaqujampa, auh vmpa itztia in jqujçaiampa, iuhqujn tlexuchtli pipixauhtiuh, ueca mocujtlapiltitiuh, veca açitiuh in jcuitlapil. Auh in oittoc cenca tlacaoacac, iuhqujn oioalli onmoma.

Injc macujltetl tetzaujtl, poçon in atl amo i ehecatl qujpoçonalti, iuhquj mumuloca, iuhquj xixitemumoloca: cenca veca in ia injc macoquetz, auh in calli tzitzintla cacic auh capapachiuh xixitin in calli ie-hoatl in vej atl totlan manj njcan mexico.

Injc chiquacentlamantli tetzaujt mjiecpa çihoatl cacoia chocatiuh, tzatzitiuh, ioaltoca, cenca tzatzi: qujtotinemj, nonopilhoantzitzin ie ic çan ie touj: in quenmanja qujtoa, nonopilhoantzitzin campa namechnoujqujlia.

Injc chicuntlamantli tetzaujtl, ceppa tlatlamaia, manoço tlamaitlaujaia in atlaca, centetl caçique tototi, nextic: iuhqujn tocujlcoiotl. Niman qujttilico in motecuçuma, tlillan calmecac omotzcalo in tonatiuh, oc tlaca: iuhqujn tezcatl icpac manj, malacachtic, teujlacachtic, iuhquj xapotticac: vnpa onneçia in ilhujcatl: inmamalhoaz in çiçitlalti. Auh in motecuçuma cenca qujmotetzauj in jcoac qujmjttac çiçitlalti ioan mamalhoaztli: auh injc oppa ontlachix, in jcpac tototi: ene qujttac iuhqujn on in ma acame moquequetztitiujtze, tepeuhtiujtze moiauchichiuhtiuitze qujnmama mamaça, auh njman qujnnotz in tlaçiuhque in tlamatinjme qujmjlhuj. Amo anquimati, in tlein onoconjttac iuhqujn acame moquequetztiujtze. Auh ie qujnanqujlizquja in conjttaque opoliuh aoc tle uel qujtoque.

5. The term *ecaili* appears to be capable of interpretation as turtle, bell, or shell. Cf. Arthur J. O. Anderson and Charles E. Dibble: *Florentine Codex*, Book I, *The Gods* (Santa Fe: The School of American Research and The University of Utah, 1950), p. 1, and Book VII, *Sun, Moon, and Stars* (1953), Appendix, where, under *Tonatiuh qualo*, Sahagún's note 7 translates *ecaxolli* incorrectly. Cf. also Eduard Seler: *Gesammelte Abhandlungen zur Amerikanischen Sprach- und Alterthumskunde* (Berlin: A. Asher & Co., 1904), II, pp. 428, 462.

Cf. also Zelia Nuttall: *The Book of the Life of the Ancient Mexicans* (Berkeley: University of California, 1903), Part I, fols. 8, 48, where the *ecaxolli* are pictured in an anonymous Codex in Florence, Italy.

5a. After *cacic*, the *Memoriales* cn 3 *Columnas* reads: "*Auh ceçe papachiuh ceçoi xixitin*"; after *many*: "*Auh yuic mocuep yuic cecenuh çã no ompa pa § ompa ontenia § oey apalpa.*"

6. Corresponding Spanish text: "*en la palacio, en una sala, que llamauan Tlillan calmecac.*" Cf. Fray Bernardino de Sahagún: *Historia general de las cosas de Nueva España* (México: Editorial Pedro Robredo, 1938), IV, pp. 24-25 (note c).

7. *Tlaçuhque*: cf. Angel María Garibay K.: "Paralipómenos de Sahagún," *Tlalocan*, II, 2 (1946), pp. 167, 171.

After *apolloh*, the *Memoriales* cn 3 *Columnas* reads: "*auc tle uel q'mqx, oc ceppa q'mihui § ihuinhqx. ye tlamatinime, de yuin tonal qui'hiaqx amo ne yehuatl in quatecuil.*"

524 won[2] all the costly goods: golden necklaces, green
525 stone, fine turquoise, bracelets on which were round, green stones or fine turquoise, quetzal feathers, slaves, houses, fields, precious capes, mats, large capes, green stone lip plugs, golden ear plugs, duck feather capes. And he who played *patolli*, who cast the beans, if then he made one [of them] stand, if the bean stood up there on its thicker end, it was taken as a [787] great omen; it was regarded as a great marvel. Then he won all the costly goods. [The other] lost even though he had not yet attained the specified number of throws. Thus were all agreed; thus all came to the end [of the game].

526 They shot with bow and arrow—with a bow, with
411 a shaft, with bird arrows, with darts. With this belonged a bracelet on which were large, round, green [301] stones or fine turquoises. The ruler placed it about
643 his wrist.

They used a sling, and cast stones with the sling. With these belonged a net for the small stones, rounded so that the small stones were polished. With [223] these they cast stones at small birds. They hunted with a bird net; with it they captured various birds.

351 Flower gardens were laid out; flower beds were laid out. They put in them all the various flowers.

522 There were their jesters who provided them solace
524 and gave them pleasure. And [there were those] who rolled a log with their feet thus bringing pleasure in many ways. Their deeds were laughable and marvelous; for with the soles of his feet one man [lying] below this did—he made a thick, round log dance with the soles of his feet [while] he lay upon his back and cast the log upward. With only the soles of his feet he did this.

517 Many things they did to bring men pleasure. There [732] were their servants, their pages who attended them and gave them solace; dwarfs, cripples, hunchbacks, [231] servants. They kept eagles, ocelots, wolves, mountain cats, and various birds.

ololiuhquj anoço teuxiujtl, quetzalli, tlacotli, calli, mjlli, tlaçotilmatli, pepechtli, veuej tilmatli: chalchiuhtentetl, teucujtlanacochtli, xomoiujtilmatli. Auh in aquin patoanj, in quichaiaoa in etl, intla centetl etl ic teequechili, in moquetztlcaz etl, in vmpa ic tzinmjmjltic: cenca tetzammachoia, cenca tlamaujçolli ipan mottaia: njman muchi quitlanj, in jxquich tlaçotli, in motlanjtoa in macanel aiamo açi in quezqujtetl aquilli, injc netennonotzalo, injc netzopalo.

Tlatlamjna tlaujtoltica, tipontica, totomjtica, tlacochtica: itlaujcallo, matzopetztli ipan ca, uej chalchiujtl, ololiuhquj, anoço teuxiujtl in jmaquechtlan quitlalia tlatoanj.

Tlatlacâloazuja, tlatlamotla ican tlacalhoaztli, iujcallo telolonatlatl mjmjltic injc mopetlaoa telolotli, ic quimotla tepitoton totome, tlatlapechmatlauja in jca totomatlatl: injc quimaçi nepapan totome,

moxochimjltia, moxochitepantia, caquja, in jxquich nepapan xochitl,

vncatca intetlaveuetzquiticahoan in quimellelquixtiaia, in quicecemeltia: ioan quaujlacatzoque in quipaquiltia mjiec tlamantli in jntlachioal teuetzquiti, ioan maujztic, in jca ixocpal tlanjpa injc tlâmati çe tlacatl, tomaoac in quanmjmjlli in quitotia ica ixocpal aquetztoc acopa in conmaiauj quammjmjlli ça ichoatl in jxocpal ic tlamati,

mjiec tlamâtli, in tececemelti in quichioa, vncatca imaachoan, ixoloan in quinujcatinenca in quimehellelquixtiaia, tzapame, villame, tepotzome, teachme, quinpiaia quaquauhti, oçelome, cuicuijtlachtin, ococtochtin, nepapan tototl.

2. The *Real Academia de la Historia* MS reads *quidamine* (for *magorel*) instead of *quidamjlic*.

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beloved sons, now we are about to go!"[10] Sometimes she said: "O my beloved sons, whither shall I take you?"

A seventh omen: at one time the fisher folk who hunted or snared with nets took captive an ashen hued bird like a crane. Then they went to show it to Moctezuma, [who was] in the Tlillan calmecatl.[11] It was past noon, and still daytime. On its head was as it were a mirror, round, circular, and as if pierced in the middle,[12] where were to be seen the heavens, the stars—the Fire Drill [constellation]. And Moctezuma took it as an omen of great evil when he saw the stars and the Fire Drill. And when he looked at the bird's head a second time, a little beyond[13] [the stars] he saw people who came as though massed, who came as conquerors, girt in war array. Deer bore them upon their backs. And then he summoned the soothsayers and the sages.[14] He said to them: "Do you not know what I have seen there, which was as if people came massed?" And when they would answer him, that which they looked at vanished. They could tell [him] nothing more.[15]

An eighth omen: often were discovered men of monstrous form, having two heads [but] only one body. They took them there to the Tlillan calmecatl, where Moctezuma beheld them; but when he looked at them, they then vanished.

quenmanjan quitea. Nonopilhoantzitzin, campa namechnoviquiliz. 787

Injc chicuntlamantli tetzavitl: ceppa tlatlamaia, [223] manoço tlamatlaviaia in atlaca; centetl cacique totodnexttic, iuhqujn tocujlcoiotl: njmā quittitito in Motecuçoma, tlillan, calmecac: ommotzcalo in tonatiuh, oc tlaca, iubq'n tezcatl icpac manj, malacachtic, tevilacachtic, iuhqujn xapotticac: vmpa onnecia in ilhujcatl, in cicitlaltin, in mamalhoaztli. Auh in motecuçoma, cenca qujmotetzavi in jquac qujmjttac cicitlaltin, yoā mamalhoaztli. Auh injc vppa ontlachix in jcpac tototl, ene qujttac, iuhquj on in ma acame, moquequetztivitze, tepeuhtivitze, moiaochichiuhtivitze, qujnmama mamaça. Auh njman qujnnotz in tlaciuhque, in tlamatinjme: qujmjlhuj: Amo anqujmati in tlein onoconjttac, iuhqujn acame moquequetztivitze: auh ie qujnanquilizquja, in conjttaque, opoliuh, aoc tle qujtoque.

Injc chicuetetl tetzavitl: mjecpa motenexttiliaia, [730] tlaca, tlacanetzolti, ontetzontecomeque, çan çe in intlac, vmpa qujmōvicaia in tlillan calmecac, vmpa qujmjttaia in motecuçoma, in oquimjttac njmā polivia.

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10. Cf. *loc. cit.*, where *yā yeh tiné* appears.

11. In Bustamante, *op. cit.*, p. 10, this is explained: *"la llamaron á presencia de Moctehuzoma, el cual por entonces estaba en unos palacios que se llamaban Tlillancalmecatle (quiere decir, palacios teñidos de negro) y porque que estos tenia otros palacios para diegerse, visiblemente edificados, este Tlillancalmecatle tenia para recogerse en el tiempo de adversidad y tristeza."*

12. A *tlachtli* (instrument for seeing), attributes of Tezcatlipoca and the fire god (Seler, *op. cit.*, p. 455, n. 4).

13. In the *Real Palacio* MS, a similar phrase is written: *"Ene q'mixtec, yehq'n ocenno mocpopoztimixtec."* On *mocpopoztimixtec*, see Rémi Siméon: *Dictionnaire de la langue nahuatl ou mexicaine* (Paris: Imprimerie Nationale, 1885) — *qucpoztec*. Its corresponding Spanish passage, Sahagún translates as *"muchedumbre de gente junta"* or *"mucha gente junta."*

14. *Tlacuilopan*: see Angel María Garibay K.: "Parallelismos de Sahagún," *Tlalocan*, II, 2 (1946), p. 171. *Amoxtlaque* is favored as translation: *"Los más sabios, porque dominan fundamentalmente matemáticas."*

15. In the *Real Palacio* MS, following *opoliuh*, we read: *"aoc tle ual q'mjqh. ne ceppa q'mikhui ỹ tlanāhuja in tlamatinime, the yuio tenoz quilhuiqe amo ual yehuatl yn quatecuil."* (In the original, the abbreviation for *-que* resembles *-qz*; hence it is thus reproduced here.)

[p. 4 is blank]

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10:Deevey N-4 (no date)1957 NU7 Aztec NU7

127 and spearing. It is not certain that the rod-and-line method involved
226 fishhooks, for these are not known archaeologically from the Valley, but the line may have carried a gorge instead of a hook, and in any case *golden* fishhooks were found in use in 1518 by Grijalva on the island of Cozumel. The types of nets used are the gill net, the pole net, and possibly the throw-net; the latter was used for rabbits but may not have been used for fish. Spearing is of particular interest to ethnologists, because Mexico is one of the few places in the world where the atlatl is still in use. This fact was discovered on Lake Pátzcuaro by Seler in 1892 and on Texcoco by Beyer in 1925.

127 Water birds are mainly hunted in the fall and winter, when migrants
223 swell their numbers. On Pátzcuaro the Tarascans surround them with canoes and kill them with tridentiform atlatls, as described by León (1934) and Foster (1948), but in the shallower lakes of the Valley the birds are caught in long nets stretched just above the water. This practice is fully depicted in the two 16th-century pictorial sources, and survives today (Linné, 1940).

127 Exploitation of the Valley lakes for animal food was not restricted
262 to fishing and fowling. If it had been, we should have no reason to impute any special limnologic knowledge to the Aztecs, but the use they made of their lacustrine environment goes far beyond that of the usual "primitive" society. In addition to tadpoles and frogs, and the axolotl, of which Sahagún says "es muy bueno de comer; es comida de los señores", the historian lists a number of invertebrate foods in Chapter 3. These items of diet have bewildered most subsequent writers, and without a thorough ethnographic survey it is impossible to be sure that the following remarks are not compounding the confusion. However, there are certain points that a limnologist finds obvious and that have been missed by all the authorities. In discussing the invertebrates we rely not only on Sahagún and the relevant illustrations in Plate I, but on Hernandez' *Historiae animalium et mineralium Novae Hispaniae liber unicus*, written in the 1570's and appended to the 1651 Rome edition of the great work on Mexican medical botany.[2]

127 [2] Mrs. Emmart, in her edition of the de la Cruz-Badianus herbal (1940), remarked that the five copies of Hernandez' work that she was able to collate are all of different editions, though all bear the year 1651. Presumably these all have the title *Rerum medicarum Novae Hispaniae Thesaurus*, but the copy in the Yale University Library, also imprinted 1651, is entitled *Nova plantarum, animalium et mineralium Mexicanorum Historia*. In any case this is a very incomplete version of what must be the greatest work on Mexican natural history ever written. Hernandez' Latin work ran to 15 or 17 volumes, and is believed to have been destroyed in the fire at the Escorial in 1671. George Kubler informs me, however, that a Nahuatl translation was made by 1576, and this or a copy of the original may yet come to light.